equipment is introduced into the marketplace that has the effect of reducing the value of older equipment. The incumbent LECs, moreover, have presented no empirical evidence to back up their claim that TELRIC depreciation rates do not adequately reflect the true pace of the technological obsolescence of the telephone network. In fact, the evidence actually shows that by far the largest component of network investment is in outside plant, the economic value of which has probably increased, and certainly has not precipitously dropped in value.[187]

b) Risk

The incumbent LECs' arguments that TELRIC does not properly compensate them for risky investment are also baseless. As the Supreme Court has stated, "TELRIC itself prescribes no fixed percentage rate as risk-adjusted capital costs and recognizes no particular useful life as a basis for calculating depreciation costs."[188] To the extent that the incumbent LECs deploy new technologies that truly are riskier, TELRIC-based rates can compensate for that increased risk. "TELRIC rates leave plenty of room for differences in the appropriate depreciation rates and risk-adjusted capital costs depending on the nature and technology of the specific element to be priced."[189]

Contrary to the incumbent LECs' claims, a requirement to sell UNEs at TELRIC-based rates does not add to the standard risks facing a firm with market power. In particular, there is no evidence to suggest that TELRIC prices neglect the "real options value" that should be included in the price of UNEs. According to the "real options" theory, when a sunk and irreversible investment is made, it extinguishes the option of

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[187] *Id.* at 31.

[188] *Verizon v. FCC*, 122 S.Ct. at 1677.

[189] *Id.* at 1678.

deferring the decision to invest until after more has been learned about a technology or the evolution of demand for existing or new products. Under certain circumstances, an investor requires a premium to undertake a sunk investment (and hence extinguish the option not to invest) relative to what it would require if it could defer the decision.

As Professor Ordover explains, however, the existing unbundling regime provides adequate compensation to the incumbent LECs. Ordover shows first that retail price regulation, based on the cost of capital, does not deter investment by a monopolist, and then shows that the addition of a requirement to offer UNEs at cost-based rates does not add to the standard risks, and therefore does not create any additional disincentive to invest.[190] It appears that, if anything, providing wholesale services would decrease the incumbent LECs' risk because, for example, competitive LECs have an incentive to stimulate demand for their products, which in turn stimulates demand for the underlying UNEs and potentially stabilizes the demand for the elements, thus reducing the options risk.[191]

TELRIC also accounts for other types of risk faced by incumbents. For instance, although the requirement to sell UNEs at TELRIC-based rates does entail some risk that a competitive LEC may eventually migrate customers to another network, this risk is one that the incumbents would confront even if there were no unbundling requirement. The incumbent LECs face risks of stranded or underutilized facilities, irrespective of whether competitors are given the right to lease UNEs at TELRIC.[192] Moreover, losing customers

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[190] Ordover Report at 25-27.

[191] *Id.* at 27.

[192] *Id.* at 28.

is a natural part of competition. The fact that regulation has promoted conditions that possibly will generate competition, and that the monopolist may be worse off as a result of this policy choice, does not justify any premium on the rates that the monopolist may charge for its leased facilities.

Finally, there is no evidence to suggest that, unless incumbent LECs are given a premium above TELRIC, they will cease to invest in "risky" new facilities. First, a substantial portion of incumbent LECs' investments are earmarked for facilities that are neither unusually risky nor new. For instance, the loop facilities needed for DSL service are already deployed, and any incremental changes needed to upgrade these facilities for DSL use are not unusually risky. These facilities, along with the rights of way, building access and related assets, constitute the most valuable part of the incumbent LECs' networks. The promise of further monopoly rents in downstream markets is not needed to encourage deployment of these assets, for they are already deployed.[193]

For those investments that truly involve unusual risk arising out of the construction of new facilities, the additional risk should be incorporated into the risk-adjusted return in a TELRIC cost model.[194] Since TELRIC already requires that state commissions adopt a "risk adjusted rate of return," however, TELRIC is certainly capable of pricing such risky investment.

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[193] *Id.* at 35.

[194] *Id.* at 35-38. Ordover notes, however, that he has "seen nothing to suggest that current ILEC investments are particularly risky and so deserving of this special treatment." *Id.* at 37-38.

3. TELRIC is Superior to Alternatives Advocated by Incumbent LECs

TELRIC has not caused the sudden and dramatic declines in incumbent LEC profitability the incumbents have been predicting since the Act was passed. There is no evidence that TELRIC-based pricing has prevented or reduced incumbent LEC investment in their networks. Moreover, as Ordover shows, TELRIC is a better methodology for pricing UNEs than any of the proposed alternatives, including embedded cost methodologies, and the efficient component pricing rule.[195] Much of the incumbent LECs' criticism of TELRIC is simply a disagreement over the levels of the inputs, rather than the overall philosophy of the forward-looking economic costs, and input decisions are features that will create controversy, regardless of the pricing principle chosen. The BOCs, and their economists, have not demonstrated that any other pricing mechanism is superior to TELRIC-based pricing with respect to all the dimensions pertinent to public policy.

IV. APPLICATION OF THE IMPAIRMENT STANDARD TO INDIVIDUAL ELEMENTS

In this Section, WorldCom analyzes each element under the framework described above. WorldCom explains why requesting carriers are impaired without access to loops, NIDs, OSS, signaling, and shared transport in all geographic areas. In addition, WorldCom explains the circumstances in which requesting carriers are impaired without access to dedicated transport and switching.

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[195] *Id.* at 46-49. For example, problems that plague embedded cost methodologies include reliance on incumbent LECs' books that are maintained for different purposes, subject to manipulation, and reflective of costs of a different network.

A. Loops

The economies of scale that characterize the local exchange network are most pronounced in the last mile of the distribution network, commonly known as the "loop," which connects end users to the local exchange switch.[196] The very high fixed and sunk costs of constructing last-mile facilities, combined with competitive carriers' small customer bases, make it nearly impossible for new entrants profitably to deploy their own loops.[197] Indeed, even under the most favorable circumstances, new entrants seeking to deploy their own loops face overwhelming cost disadvantages relative to the incumbent LECs.[198]

In his declaration, Mark Bryant explains that due to economies of scale in all major network components (including loops, transport and switching), significant cost disadvantages exist for new entrants at all levels of market penetration below fifty percent.[199] Bryant explains that the cost disadvantage is most severe for loops, noting that the loop is characterized by very costly structures, such as poles, conduit and trenches, which support the cable providing end user-to-central office connectivity. These structures constitute a very large fixed cost because, in order to serve a particular neighborhood, poles must be placed or trenches must be dug, regardless of the number of subscribers in that neighborhood.[200]

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[196] Bryant Declaration ¶¶ 3, 29; *see also* Clarke at ¶ 12; *Verizon v. FCC*, 122 S.Ct. at 1662 (noting that the local loop is the most difficult and costly part of the incumbent's network for competitors to replicate).

[197] *See* Bryant Declaration ¶¶ 3, 14.

[198] *See id.* ¶ 14.

[199] *Id.* ¶ 29.

[200] *Id.* ¶ 11.

The incumbent LEC has virtually all subscribers attached to its loop plant, and thus has a relatively large number of subscribers over which the fixed cost of the loop plant may be spread. Bryant explains that "it will be difficult, if not impossible, for new entrants profitably to overbuild the existing telephone network, since the new entrant initially would have very few customers from which the same fixed costs may be recovered."[201] As discussed below, the Commission therefore should require incumbent LECs to provide unbundled loops of all types, including high-capacity loops, voice grade loops, and loop UNEs required for the competitive provision of DSL services.

1. The Incumbent LECs' Obligation to Provide Unbundled Access to "High-Capacity" Loops Should Remain in Place

As WorldCom explained in its initial comments, competitive carriers continue to rely heavily on incumbent LEC-provided unbundled high-capacity last-mile facilities, including DS-1s, DS-3s, and OC-n facilities. For the vast majority of buildings where there is likely to be demand for DS-1 circuits, there are no alternatives to the incumbent LECs' facilities. The incumbent LECs also likely provide DS-3 connectivity to many thousands of buildings where there are no alternative providers. For both DS-1s and DS-3s, self-provisioning facilities to these locations would be so costly and time-consuming that competitors' ability to offer service clearly would be impaired without access to unbundled loops.

According to the BOCs, the Commission should eliminate their unbundling obligation for last-mile facilities of DS-1 or greater bandwidth. As WorldCom demonstrated in its initial comments, the BOCs' arguments against mandatory

[201] *Id.* ¶ 13.

unbundling of high-capacity loops are largely based on the so-called "Fact Report" compiled by their lawyers. The latest iteration of this report is no more reliable than its predecessors, however. This compendium of hearsay, speculation, and faulty logic is seriously flawed both in its "facts" and its inferences. However, it is noteworthy that this year's version of the Report finally concedes that competitive LECs serve no more than 30,000 buildings nationwide with their own fiber.[202] Even this relatively small number undoubtedly overstates the number of customer locations reached by competitive LECs' fiber, since it includes IXC points of presence (POPs), collocation hotels, cell towers, and other network facilities.

The BOCs argue that 30,000 represents a significant number of buildings. However, as is the practice throughout the BOC Report, the BOCs fail to provide data about their own operations that would allow the Commission to put the number of buildings served by competitive LECs' fiber into proper context. For example, the BOCs do not report either: (1) the number of buildings that the incumbent LECs serve over fiber; or (2) the number of buildings to which the incumbents provide high-capacity circuits (whether over copper or fiber, as UNEs or as special access or other services). Presumably, the incumbent LECs do not provide such information in their Report because the data would show that the 30,000 buildings served by competitors' fiber

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[202] UNE Fact Report 2002, Prepared for and Submitted by BellSouth, SBC, Qwest and Verizon, CC Docket No. 01-338, at IV-4 (April 2002) ("BOC Report"). *Compare with* Peter W. Huber, UNE Fact Report, Submitted by the United States Telephone Association, CC Docket No. 96-98 (May 26, 1999) at I-10 – I-20 (claiming 175,000 buildings served by CLEC fiber).

represent only a small fraction of the buildings the incumbents serve with high-capacity circuits.[203]

The BOC Report makes the curious claim that the small number of competitive LEC orders for "high capacity" unbundled loops shows that competitors do not need such facilities.[204] In fact, the reason that competitive LECs do not order "high capacity" loops is that the incumbent LECs have used every possible tactic to restrict competitors' access to such loops. As WorldCom described in its initial comments, the BOCs, particularly Verizon, have adopted policies whereby they reject digital loop orders based on claims of "no facilities" in circumstances where they would not reject an order from a retail customer. The Commission must put an end to this conduct. Competitive LECs would like to use unbundled high-capacity loops to deliver service to the hundreds of thousands of competitive LEC customer locations not served by competitive LEC fiber, but no competitive LEC can build a business around a service delivery mechanism whose availability is restricted and, at best, unpredictable. With only limited exceptions, the incumbent LECs' tactics have forced competitors to rely almost entirely on high-priced incumbent LEC special access services to reach their "off-net" customers.

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[203] *See, e.g., Proceeding on Motion of the Commission to Investigate Methods to Improve and Maintain High Quality Special Services Performance by Verizon New York, Inc.*, Opinion No. 01-1, Opinion and Order Modifying Special Services Guidelines for Verizon New York Inc., Conforming Tariff, and Requiring Additional Performance Reporting (June 15, 2001) ("*New York Special Services Order*") at 7 ("In the 132 LATA, for example, . . . Verizon has 7,364 buildings on a fiber network compared to less than 1,000 for most competing carriers"); *Petition of U S WEST Communications, Inc. for Forbearance from Dominant Carrier Regulation in the Phoenix, Arizona MSA*, CC Docket No. 98-157, Attachment B, Appendix D (August 24, 1998).

[204] BOC Report at IV-6.

The BOC Report also makes the erroneous claim that competitive LECs serve at least 11 million business lines over their own last mile facilities. Not only do competitive LECs serve only 9.5 million business lines *in total*,[205] but the Report makes the incorrect assumption that every competitive LEC line not served over a UNE loop is served over competitive LEC fiber. In reality, a high proportion of the competitive LEC customers not served over UNE loops are served over special access circuits purchased from the incumbents.

The facts show that competitive LECs would be impaired throughout the country without access to incumbent LEC last-mile facilities. Indeed, even in Manhattan, where competitive fiber deployment is more extensive than any place else in the country, the New York Public Service Commission (NYPSC or NYDPS) found that Verizon's fiber network connected to many more buildings than the networks of all competitors combined. At this point in time, therefore, there is no need to conduct a more granular analysis for last-mile facilities.

a) SBC's Proposed Impairment Test Focuses on Irrelevant Criteria.

The Commission should reject SBC's proposed impairment test for DS-1 loops. SBC recommends that the Commission not require unbundling of DS-1 facilities in wire centers that meet any of the following criteria: two or more fiber-based collocators; at least 15,000 business lines; or $150,000 or more in monthly special access revenues.[206]

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[205] Industry Analysis Division, *Local Telephone Competition: Status as of June 30, 2001*, at Table 2 (February 2002) ("*Local Competition Report*"), *available at:* <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/lcom0202.pdf?>.

[206] SBC Comments at 101.

The presence of any one of these factors is not sufficient to demonstrate that competitive carriers are not impaired, however.

The presence of fiber-based collocators, for example, shows only that there are competitive networks in the area. It does not show that those networks extend to more than a handful of buildings where there is demand for DS-1s. As WorldCom has explained, the vast majority of such buildings are served only by the incumbent LEC[207] and, in most cases, competitive LECs cannot economically extend their networks to buildings based on demand for a few DS-1s.[208] Accordingly, the presence of fiber-based collocators does not prove that competitive carriers would not be impaired without access to the incumbents' last-mile DS-1 facilities. The Commission should also bear in mind that one of the primary reasons that many competitors collocated in the first place was to obtain unbundled access to DS-1 loops. Those carriers' collocation facilities would be stranded by a decision to eliminate unbundled DS-1s.

The number of business lines and the amount of special access revenue associated with a wire center are even less relevant to impairment than the presence of fiber-based collocators. These are facts about the incumbent LEC network and customers. They reveal nothing about the presence of competitive LEC fiber facilities or the ability of competitive carriers to serve customers without using incumbent LEC facilities. The facts show that the incumbent LECs are the only providers of last-mile facilities to the vast majority of locations where there is demand for DS-1 connectivity. There is simply

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[207] WorldCom Comments at 75

[208] Fleming Declaration ¶ 10.

no justification at this time to relax in any manner the incumbent LECs' unbundling obligation for these circuits.

b) Timeliness Issues

Contrary to BellSouth's assertion, the length of time needed for competitive LECs to deploy alternative facilities is material to their ability to compete, and therefore material to the Commission's impairment analysis.[209] WorldCom has demonstrated that it takes a minimum of six months for competitive LECs to extend their existing networks to nearby buildings,[210] and it can take two years or longer to build facilities to buildings farther from the competitive LECs' network.[211] Even with their notoriously poor provisioning performance, incumbent LECs can provide digital loops to most locations in a matter of days or weeks. Few customers will be willing to wait months or years to obtain service from a competitive LEC when the incumbent LEC can provide the same service in a few days or weeks.

c) Rights of Way

BellSouth's assertion that the costs and delay associated with acquiring rights-of-way have an equal impact on incumbent LECs and competitive LECs ignores critical differences between incumbents and new entrants.[212] The incumbents have had nearly a century in which to build their local networks. For most of this period, the incumbents (or the Bell System) faced no competition, and had vast financial resources to expend on new construction arising from their status as government-protected monopolies. Competitive LECs began nearly from scratch only six years ago. Clearly, rights-of-way

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[209] BellSouth Comments at 69.

[210] Fleming Declaration ¶ 9.

[211] *Id.*

[212] BellSouth Comments at 97.

issues have a much greater impact on companies that are just beginning to build out their local networks than on companies that already have deployed ubiquitous networks.

Even if it were true that these issues affect competitive LECs and incumbent LECs equally, it would not matter for the Commission's impairment analysis. The Commission's impairment analysis asks whether lack of access to a network element would materially diminish the requesting carrier's ability to offer service, not whether an incumbent LEC encountered costs and delay related to the acquisition of rights-of-way fifty years ago.

d) TELRIC

Verizon's argument that the availability of unbundled high-capacity loops at TELRIC rates has a significant, negative impact on competitive LECs' fiber deployment[213] is refuted in the Kelley and Ordover papers, as discussed above in section III. Verizon's argument is also incompatible with its assertion that competitive LECs make little use of unbundled high-capacity loops.[214] It is logically inconsistent to argue simultaneously that competitive LECs make little use of these UNEs, and that the availability of these UNEs creates disincentives for competitive LECs to construct fiber networks.

e) No Facilities

It is not enough for the Commission simply to mandate unbundling of digital loops. The Commission must also prevent the incumbent LECs from strategically rejecting requests for elements based on claims of "no facilities." For example, Verizon's practice of rejecting competitive LECs' UNE orders based on an alleged lack of facilities

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[213] Verizon Comments at 122.

[214] *Id.* at 119 (claiming that "there has been extremely limited demand for this UNE.").

has severely undermined competitors' ability to compete for high capacity services.[215] The incumbent LECs' statutory obligation to provide non-discriminatory access to UNEs requires them to provide network elements to competitors whenever the incumbents would use those same elements to provide service to their own retail customers. Yet, Verizon's explicit policy is to reject digital orders for "no facilities" in a host of circumstances where it would complete an order by a retail customer.[216] The Commission must not permit Verizon or other incumbent LECs to discriminate against other carriers in this manner.

2. DS-0/Voice-Grade Loops.

Competitors have no alternatives to the incumbent LECs' voice-grade loops. It simply is not cost-effective for competitors to deploy such low-capacity loops themselves. Even if competitive carriers could obtain the capital required to self-provision voice-grade loops in meaningful numbers, they lack the extensive distribution network and customer base that makes incumbent LEC deployment profitable. The incumbent LECs' economies of scale and scope provide them with an insurmountable cost advantage in the deployment of voice-grade loops.

Nor can new entrants turn to alternative sources of voice-grade loops outside the incumbent LECs' networks. As described below, cable and wireless technologies suffer from flaws that make them unsuitable as substitutes for incumbent-LEC provided voice-grade loops. The cable companies' unwillingness to provide competitors with access to

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[215] Comments of ALTS *et al.* at 107.

[216] *Id.* at 110-111.

their facilities further prevents cable from being considered viable alternatives to incumbent LEC loops.

These problems apply to all voice-grade loops, including xDSL-capable loops, line-shared loops, and fiber-fed loops, and there is no geographic variation that requires that states undertake a factual analysis of the situation. Consequently, the Commission should determine that voice-grade loops, including xDSL-capable loops, line-shared loops and fiber-fed loops, must be available as unbundled network elements on a nationwide basis.

3. Loops Used for DSL Service

As explained below, competitive carriers cannot obtain the facilities they need to provide DSL service from any entity but the incumbent LEC, and would be impaired without access to such elements. Likewise, many customers will not be able to enjoy the benefits of broadband competition – including better service, lower prices, and more innovation – unless competitive DSL remains a viable alternative to incumbent LEC DSL or cable modem service. Indeed, competitive providers are the only source of broadband services available to some customers. WorldCom, for instance, relies on select UNEs to offer a business-class DSL service,[217] something the incumbent LECs simply do not provide.[218] In addition, WorldCom offers Internet service providers (ISPs) options that they may not be able to obtain from the incumbents.[219] If WorldCom and other competitors were stripped of their ability to offer such services, many customers would

[217] WorldCom Comments, Graham Declaration at ¶¶ 10-11, 19-20.

[218] *See, e.g.,* SBC Comments at 52-53 (SBC's broadband network "has been designed to provide shared capacity for mass-market (primarily residential) DSL consumers.")

[219] WorldCom Comments, Graham Declaration at ¶ 12.

be deprived of their preferred choice for broadband services. In addition, since most customers live in areas that have at most one broadband supplier,[220] and at best customers have a choice of two broadband alternatives, the elimination of competitive DSL would effectively cement in place the monopolistic or duopolistic *status quo* for broadband services.

In remanding the *Line Sharing Order*, the Court of Appeals asks several questions specifically related to line sharing. The answers to many of these questions, however, apply broadly to all loops used for DSL services, whether provided over the high-frequency portion of the loop or via stand-alone loops. Because of the court decision, WorldCom addresses these issues in its discussion below, and notes that the lack of intermodal competition applies with equal force to the provision of DSL over stand-alone loops.

The Commission therefore should promulgate rules that will ensure that competitive carriers have unbundled access to the network elements they need to provide DSL service, including xDSL-capable loops, the high frequency portion of loops, and xDSL-capable fiber-fed NGDLC loop facilities. The Commission should likewise ensure that competitive carriers can engage in line splitting, and can offer voice service over loops that carry incumbent LEC DSL service.

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[220] *See* WorldCom Reply Comments, CC Docket No. 01-337, at 2 n.2 (filed April 22, 2002), citing Comments of California PUC, CC Docket No. 01-338, at 7-8; *see also, e.g.*, HAI Report at 75.

a) The Commission Should Afford Competitive LECs Unbundled Access to xDSL-Capable Loops and the High-Frequency Portion of Loops

As explained above, competitors clearly are impaired without access to incumbent LEC loops.[221] As a number of commenters stated, the incumbent LECs' last-mile facilities are a bottleneck that competitive carriers cannot duplicate, and there are no alternatives to the incumbents' copper loop plant.[222] This lack of alternatives extends to all copper loops used to provide any telecommunications service. If a competitive LEC needs to use the incumbent's copper loop to provide voice services, it needs the same loop to provide DSL or other services. The fact that the loop is used to provide two different services is completely irrelevant to the question of whether the competitor has some alternative to using the incumbent LEC loop.

In addition, as long as a competitor uses an unbundled loop to provide a telecommunications service, the FCC cannot further limit the uses to which the carrier puts that element. As WorldCom explained in its initial comments, any such use restriction would violate the Act, thwart competition, stifle innovation, and prove exceedingly difficult to administer.[223]

In remanding the *Line Sharing Order*, the Court of Appeals directed the Commission to consider the state of competition for broadband services, including

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[221] *See supra* at Sections IV.A.1 and IV.A.2.

[222] *See e.g.,* Covad Comments at 26-28, 35; Comments of the New York State Department of Public Service at 3-7; Comments of the California Public Utilities Commission at 7-8; Comments of the Indiana Utility Regulatory Commission at 8.

[223] WorldCom Comments at 53-58; *see also* WorldCom Comments in CC Docket No. 02-33 at 72-78 (filed May 3, 2002). CLECs today offer DSL services, which are properly classified as telecommunications services, to end user customers as well as to ISPs. *See* section II.I, above.

intermodal competition.[224] In particular, the Commission must take into account "the availability of elements outside the incumbent's network."[225] As discussed in greater detail below, competitive carriers cannot obtain the facilities they need to provide broadband service (including fiber-fed loops) from any entity but the incumbent LEC, and would be impaired without access to such elements.

Moreover, contrary to the BOCs' assertions, there is not significant competition for broadband services. Business customers can obtain business-grade DSL service only from competitive LECs. Likewise, most residential customers live in areas where they have only one broadband supplier, if they have any access to broadband services at all.[226] Even where both cable modem service and DSL are provided, customers are confronted with a duopoly, in which both the cable provider and the incumbent LEC retain market power. If the FCC were to relieve the incumbent LECs of their line-sharing obligations, it would eliminate a meaningful source of competition for broadband services. On remand, the Commission therefore should find that lack of unbundled access to the high frequency portion of the loop impairs competitive carriers under Section 251(d)(2) of the Act.

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[224] Even after the Court of Appeals' decision, state commissions remain free to impose line sharing obligations. In addition, regardless of any state action, Verizon is required to "continue to make available to telecommunications carriers . . . each UNE and combination of UNEs required" under the *Line Sharing Order* and *UNE Remand Order* until the date of a final, non-appealable judicial decision providing that Bell Atlantic need not provide such UNEs in its geographic regions. *Bell Atlantic/GTE Merger Order*, 15 FCC Rcd 14032, ¶ 316 (2000).

[225] *USTA v. FCC*, 290 F.3d at 429 (quoting *Iowa Utilities Board*, 525 U.S. at 389).

[226] *See* WorldCom Reply Comments, CC Docket No. 01-337, at 2 n.2 (filed April 22, 2002), citing Comments of California PUC, CC Docket No. 01-338, at 7-8; *see also, e.g.*, HAI Report at 75.

(1) Lack of Competition for Broadband Services

As described in WorldCom's initial comments,[227] satellite, fixed wireless, and mobile wireless providers do not provide meaningful competition to the incumbent LECs for either business or residential services,[228] and even cable competition is limited. Indeed, the BOCs' own analysis shows that satellite and fixed wireless are largely irrelevant to any competitive assessment.[229] According to the BOCs' own estimates, fixed wireless services are available to no more than 3 percent of the U.S. population, and satellite and fixed wireless combined serve a total of no more than 200,000 customers.[230]

(a) Business Broadband Services

Although DSL remains the leading choice of broadband technology for business subscribers, the incumbent LECs do not offer business-grade DSL unbundled from Internet access services.[231] Rather, incumbent LECs have generally designed their DSL network architecture and product offerings so as not to include various business-grade

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[227] WorldCom Comments at 38-47.

[228] As explained in WorldCom's initial comments, the Commission's traditional categories for users of telecommunications services – the larger business market and the mass market (which includes residential consumers and small businesses) – are inappropriate for broadband services. Because business customers, regardless of size, demand a higher quality of broadband services, the Commission must separately consider the alternatives available for business and residential broadband services. WorldCom Comments at 39-40.

[229] Mobile wireless is also irrelevant because mobile wireless companies do not currently supply broadband access and will not do so in the next few years. WorldCom Comments in CC Docket No. 01-337 at 7 (filed March 1, 2002), Kelley Declaration ¶ 18.

[230] BOC Report at IV-19 (Table 6), IV-21. *See also* Declaration of Richard Chandler, appended hereto as Attachment D, at ¶ 4 ("Chandler Declaration"). Although the BOC Report predicts rapid growth in satellite and fixed wireless broadband service, these predictions are squarely refuted by the HAI Report, which demonstrates that satellite and fixed wireless are likely to remain complementary to DSL, not develop into direct competitors. HAI Report at 76-79.

[231] *See* WorldCom Comments at 40-41.

features, such as symmetric bandwidth capabilities, low over-subscription rates, dry copper loop service, static IP addressing and routed CPE, and service level guarantees.[232]

There currently are no widespread competitive alternatives to incumbent LEC data services for business customers.[233] Thus, in the absence of business-grade DSL from competitive carriers such as WorldCom or Covad, many business customers have no choice but to purchase either dial-up access (generally over a second line) or high capacity special access lines from the incumbent.[234] In particular, cable modem, satellite, and wireless technologies all suffer from serious constraints that make them poor substitutes for business broadband services. The only meaningful alternative therefore is business-grade DSL from competitive carriers. Even this source of competition is being threatened, however, by the incumbent LECs' attempts to eliminate line sharing and other unbundling requirements aimed at promoting competition for broadband.[235]

(i) Cable Modem

Cable modem service suffers from a number of limitations that make it inappropriate for most business customers. As explained in WorldCom's initial

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[232] *See* WorldCom Comments in CC Docket No. 01-337, Graham Declaration ¶¶ 20, 38. The incumbents' decision not to offer business-grade DSL may be motivated by a desire to protect their profits from other, higher-margin products, such as T-1 service.

[233] Ad Hoc's members report that viable competitive alternatives to incumbent LEC data services for "Category A" (defined as capacity of 12 DS-0 channels or less, *i.e.*, ½ T-1, xDSL, etc.) and "Category B" (defined as capacity of at least one, but not more than four, DS-1 circuits) were available at fewer than 10% of members' locations. Ad Hoc Comments, CC Docket No. 01-337, at 15.

[234] *See* WorldCom Reply Comments, CC Docket No. 01-337, at 19-21.

[235] Although WorldCom and other competitive carriers seek to offer business-grade DSL services, their ability to do so currently depends on the availability of unbundled network elements. Incumbent LECs can and do curtail the ability of competitors to offer business-grade services by restricting access to necessary UNE inputs or failing to provision such facilities in a timely manner. *See* WorldCom Comments at 23-24, 94.

comments, cable-based high-speed Internet access is rarely available to business customers,[236] and suffers from several problems that will likely continue to hinder its deployment. For example, cable modem equipment still is largely unavailable for business networks, and cable providers continue to have only limited success in gaining access to multi-tenant environments (typically found in commercial settings).[237]

Even if cable modem service were to become widely available for business use, it would still make a poor choice for most businesses. Among other problems, its shared bandwidth architecture often causes cable modem service to lose signal strength during peak times and to pose security risks for business customers.[238] As a result of such problems, "MSOs are reluctant to aggressively market the cable modem to business customers who use up a lot of bandwidth and need guaranteed services and symmetrical communications capabilities to support mission-critical business operations."[239]

Although some cable providers have attempted to upgrade their broadband offerings to make them more attractive to business customers, they have achieved little success to date, and are not likely to fare better in the near future:

> Recognizing the limitations of their current offerings, many MSOs have deployed separate physical networks based on asynchronous transfer mode, Sonet and other proprietary access technologies. However, the high cost of deploying and maintaining a separate physical network has limited the addressable commercial market to a few concentrated areas. Also, with the up-front capital-intensive investment required to deploy a fiber to

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[236] WorldCom Comments at 42.

[237] *Id.* at 43.

[238] *Id.* at 42.

[239] Dev Gupta, "Cable's New Mantra: Taking Care of Business," *Multichannel News* (Oct. 8, 2001), 2001 WL 8716799.

> the edge solution, many MSOs remain unable to crack open quickly the commercial market in any meaningful way.[240]

It is thus clear that cable providers are not likely to offer a viable alternative for broadband access to businesses any time in the near future.

(ii) Satellite and Wireless

Like cable modem, neither broadband satellite nor wireless service provides a widespread alternative to business-grade DSL. As discussed in WorldCom's initial comments, broadband satellite service today is not widely available to business customers, suffers from significant capacity limitations, is prone to signal fading caused by rainfall, and requires subscribers to purchase equipment that is much more expensive than DSL or cable modem.[241]

Mobile and fixed wireless services also suffer from various constraints. Second generation mobile wireless services can support only modest data rates, typically about 10 kbps.[242] Although third generation services will offer data rates exceeding 144 kbps, these rates represent an overall radio channel data rate. Thus, the average per user rate will be much lower, probably between 50 and 100 kbps.[243] As a result, capacity and service-quality constraints make it unlikely that significant numbers of business broadband service users will switch to wireless services.[244]

At present, fixed wireless service providers, operating primarily in the MDS and ISM bands, face significant technological and capacity limitations. For example, the

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[240] *Id.*

[241] *See* HAI Report at 76-78.

[242] HAI Report at 49.

[243] *Id.* at 50.

[244] *Id.*

equipment currently used for MDS requires a line of sight between the consumer premise and the base station. As a result, it is necessary to affix external antennas to the building being served. Zoning restrictions limiting the height of such antennas and the unwillingness of landlords to provide access to their rooftops have hindered carriers' ability to provide MDS service. Further, MDS providers have sufficient spectrum capacity to serve only a limited portion of potential broadband subscribers.[245]

(b) Residential Broadband Services

Intermodal alternatives have not fostered significant competition for residential broadband services. Although more widely available than satellite or wireless, cable modem service at best creates a duopoly for residential customers. As demonstrated below, it is clear – as a matter of fact, economics, and law – that duopolies do not constitute the kind of vigorous competition envisaged by the 1996 Act.

(i) Cable Modem

The BOCs cite the relative shares of cable modem service and DSL as proof that intermodal competition already exists in the mass market for broadband services.[246] These numbers are misleading, however. The fact that cable modem penetration is higher than DSL penetration does not mean that incumbent LECs lack market power with respect to broadband services. Where cable is not provided, the incumbent LEC is a monopolist. Where both cable and DSL are provided, incumbent LECs continue to exercise market power. In either case, there is no plausible basis for concluding that

[245] HAI estimates that MDS providers have the capacity to serve only 5-10% of wireline broadband subscribers in larger markets. *Id* at 78.

[246] BellSouth Comments at 40; Qwest Comments at 43.

intermodal competition constrains or disciplines the incumbent LECs' exercise of market power.

In order for intermodal competition to limit market power, consumers must be able to choose from among *several* modes of broadband technology that are concurrently available within the same geographic area.[247] As WorldCom has previously demonstrated, however, significant numbers of consumers may have only one broadband supplier, and in many cases that supplier will be the incumbent LEC.[248] Indeed, the BOC Report concedes that only about one-third of U.S. households have access to both cable modem and DSL service.[249] That means that two-thirds of all homes have only a single choice of broadband provider, if they have any access to broadband services at all.[250]

The geographic segregation of DSL and cable modem is likely to persist for the foreseeable future because it is fueled by the disparate costs that cable companies and incumbent LECs face in specific areas. For instance, in core urban areas where short loop lengths are well-suited for DSL, cable plant tends to be older and thus more costly to

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[247] *See* WorldCom Comments, CC Docket No. 01-337, Kelley Declaration ¶¶ 29-37; HAI Report at 82-84.

[248] WorldCom Comments, CC Docket No. 01-337, Kelley Declaration ¶ 29; HAI Report at 75.

[249] BOC Report at IV-19. *See also* Comments of DirecTV Broadband, CC Docket No. 01-337 (filed March 1, 2002) at 6 ("Only 1/3 of American homes can currently choose between wireline and cable broadband services.").

[250] *See, e.g.*, Comments of the California Public Utilities Commission at 12 (noting that "one-third of all Californians live in cities where DSL service is the only choice for broadband service."); Comments of EarthLink, CC Docket No. 01-337 (March 1, 2002) at 19; Comments of Competitive Telecommunications Association, CC Docket No. 01-337 (March 1, 2002) at 11 ("A recent GAO survey reported that in areas where broadband service is available, only 25.4 percent of the end users have a choice between cable modem and xDSL services.").

upgrade for broadband service.[251] As long as this type of disparity persists, cable companies are likely to continue to target areas that incumbent LECs have ruled out, and *vice versa*. For the foreseeable future, then, significant numbers of broadband subscribers will likely continue to have, at most, only a single choice of broadband provider.

Even where the consumer has a choice between DSL and cable modem service, the incumbent LECs retain significant market power.[252] Duopoly is much more likely to lead to collusion than the presence of several competitors, and economic models show that when there is a relatively small number of competitors, performance can suffer.[253] An increase in the number of firms from two to three or more can have a dramatic effect on prices. Economic theory indicates that a duopoly will not be sufficient to ensure competition for broadband services.[254]

There is also empirical evidence from the telecommunications industry that a duopoly does not provide competitive performance. For instance, in the five years since PCS providers were first allowed to compete with incumbent cellular providers (of which there were originally a maximum of two in each service area), pricing information

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[251] WorldCom Comments, CC Docket No. 01-337, Kelley Declaration ¶ 28.

[252] *See* WorldCom Comments, CC Docket No. 01-337, Kelley Declaration ¶ 29; HAI Report at 75.

[253] The BOCs' own experts have concluded that oligopoly – much less duopoly – facilitates coordinated interaction among competitors. *See* Testimony of Jerry A. Hausman, on behalf of Pacific Bell (U 1001), Before the Public Utilities Commission of the State of California, *In re Request of MCI WorldCom, Inc. and Sprint Corporation for Approval to Transfer Control of Sprint Corporation's California Operating Subsidiaries to MCI WorldCom, Inc. Application No. 99-12-012* at 12 (May 19, 2000); WorldCom Comments, CC Docket No. 01-337, Kelley Declaration ¶ 32.

[254] WorldCom Comments, CC Docket No. 01-337, Kelley Declaration ¶ 32.

collected by the FCC demonstrates that prices declined over 50 percent.[255] It is reasonable to infer that the change from two carriers to as many as six or seven carriers resulted in a dramatic increase in competition for the provision of wireless services.

In contrast to cellular prices, retail prices for high-speed Internet access over broadband facilities have been increasing over the past year. In 2001, for example, ARS Inc. estimates that the average monthly rates for cable Internet access service increased from $39.40 to $44.22, while the average monthly rates for DSL-based Internet access service increased from $47.18 to $51.67.[256] These price increases reflect the lack of competition for residential Internet access services provided over broadband facilities.

The FCC has consistently recognized that each provider in a duopoly tends to retain significant market power. In fact, the FCC has never relied on the presence of two providers to make a finding that sufficient competition exists for a particular service.[257] For example, AT&T was not declared non-dominant in the provision of interexchange services until long distance customers enjoyed "numerous choices" – including three facilities-based national competitors, dozens of regional facilities-based carriers, and

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[255] *Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Service*, Fifth Report, 15 FCC Rcd 17660 at 18-20 (2000); *Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Service*, Third Report, 13 FCC Rcd 19746 at § III(A)(1)(c)(2) (1998).

[256] Shelley Emling, *Tech Sector Lobbyists Pushing Broadband*, Atlanta-Journal Constitution, Feb. 10, 2002 (citing Mark Kersey, analyst for ARS Inc.).

[257] *See* WorldCom Comments, CC Docket No. 01-337, at 12 (FCC has never relied on the presence of only one additional competitor to declare a carrier non-dominant in a local bottleneck market.).

hundreds of resellers.[258] Similarly, in the *LEC Classification Order,* the Commission relied upon the presence of large and well-established interexchange carriers to constrain any exercise of market power by the incumbent LECs in the provision of interexchange services.[259]

By contrast, the only significant competition an incumbent LEC faces in the provision of residential broadband services comes from the local cable company. As the foregoing discussion makes clear, two competitors in select areas are simply not enough to guarantee the development of *any* competition, much less the kind of robust intermodal competition needed to justify a finding that competitors are not impaired without access to xDSL-capable loops or to the high-frequency portion of loops.

(ii) Satellite and Wireless

As discussed above, satellite and wireless technologies are not sufficiently widespread to provide competitive alternatives to incumbent LEC data services for the vast majority of residential customers. Even if satellite and wireless alternatives were one day to become more widely available, however, they still would suffer from significant technical, cost, and capacity limitations that would make them unsuitable for residential broadband use.

In his attached declaration, Richard Chandler analyzes the prospect that Ka band satellite licensees will be able to offer robust competition to incumbent LEC DSL or

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[258] *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271, ¶¶ 69-72 (1995) ("*AT&T Reclassification Order*").

[259] *Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area,* Second Report and Order in CC Docket No. 96-149 and Third Report and Order in CC Docket No. 96-61, 12 FCC Rcd 15756, ¶¶ 96-97 (1997) ("*LEC Classification Order*").

cable modem service.[260] Mr. Chandler notes that satellite-based service at the frequencies in question is prone to signal fading caused by rainfall,[261] and that subscriber equipment is much more expensive than DSL or cable modem. For example, "[c]urrent retail prices for two-way satellite terminals for DirectTV's DIRECWAY Internet access are about $700, and a $200 professional installation is also required."[262] By contrast, "ADSL modems are widely available at retail for well under $100 in single quantities," and can be installed by the subscriber.[263] Although the per-unit manufacturing costs of satellite broadband equipment "will decrease with greater production volume, this equipment will always be significantly more expensive than that required for ADSL or cable modem service."[264]

Chandler also shows that even under the most noteworthy proposal to offer satellite broadband service, providers are unlikely to have enough capacity to serve a large number of customers. Although satellite-based service may be a useful or even a principal means of Internet access for a limited number of rural households, the combined capacity of an EchoStar/Hughes entity, for example, would fall far short of that required to serve even a majority of rural households, let alone a significant fraction of households

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[260] *See* Chandler Declaration ¶¶ 4, 14-18 (focusing on ability of a combined EchoStar/Hughes entity to support broadband Internet access). As Chandler recognizes, high-speed satellite-based Internet access could play a "very useful" role in certain niches. *Id.* ¶ 17. Indeed, WorldCom itself provides a high-quality, two-way broadband Internet VSAT service that is purely a business application. Even this service, however, is not available everywhere due to the above-described constraints.

[261] *Id.* ¶ 14.

[262] *Id.* ¶ 16.

[263] *Id.* ¶ 15.

[264] *Id.* ¶ 16.

nationwide.[265] In sum, "satellite broadband is at best an alternative suited mainly for customers in rural areas or other areas where no other broadband alternative is available."[266]

Fixed wireless also faces significant capacity and technological limitations for most residential areas. As described above, current equipment requires a line of sight between the consumer premises and the base station. Many customers do not have a line of sight to the base station, and therefore cannot be served. Further, as described above, there are significant capacity limitations on fixed wireless systems.

(2) Lack of Availability of Elements Outside the Incumbent's Network

As shown above, meaningful intermodal or intramodal competition for broadband services simply does not exist, even from the perspective of the end-user customer. According to the D.C. Circuit, one relevant question under the Act is whether competitive carriers lack availability of elements outside the incumbent's network.[267] The answer to that question is clear. Whatever limited intermodal competition may exist, it has not enhanced competitive carriers' ability to provide broadband service without resorting to incumbent LEC facilities. To the contrary, as a number of commenters stated, the

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[265] *Id.* ¶ 4.

[266] HAI Report at 77-78. *See also* PC World, "Ditch Your Dial-Up," *available at*: <http://www.pcworld.com/features/article/0,aid,73865,pg,3,00.asp>, ("The runt of broadband litter has always been satellite. Characterized by difficult, expensive installations, notoriously poor service, and suspect performance, the service meant for anyone who can't get cable or DSL has ceased to be a serious option.").

[267] *USTA v. FCC*, 290 F.3d at 429 (quoting *Iowa Utilities Board*, 525 U.S. at 389).

incumbent LECs' last-mile facilities clearly remain a bottleneck that competitive carriers can neither duplicate nor bypass via access to alternative facilities.[268]

In fact, competitive carriers have practically no alternatives to incumbent LEC-provided elements for use in the provision of broadband services. On the intermodal front, wireless and satellite facilities (as explained above) simply are not sufficiently widespread to be available to end users, let alone competitors, for the vast majority of services. In addition, cable companies have no obligation to provide competitive carriers access to their facilities, and at least thus far, have not shown any willingness to provide access to those facilities voluntarily.[269]

While it is possible for data providers to partner with competitive voice providers and engage in line splitting, operational details involving such arrangements still need to be resolved.[270] Even if such partnerships were available, however, they would not provide competitive carriers access to the vast majority of potential customers who are reachable only over the incumbent LECs' ubiquitous local loop facilities.[271]

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[268] *See supra* at n.222.

[269] The BOCs decry the lack of parity between the regulatory treatment of cable modem and DSL services. *See* Verizon Comments 17, 86; SBC Comments 56-57; Qwest Comments at 41; BellSouth Comments at 40. These complaints ignore the fundamental purpose of the 1996 Act, which, according to the Supreme Court, was to render the incumbent LECs' monopolies "vulnerable to interlopers." *Verizon v. FCC*, 122 S.Ct. at 1661. In passing the 1996 Act, Congress specifically chose to subject incumbent LECs, but not cable companies, to the unbundling rules. And, as Covad points out, "[t]he cable network is regulated differently because it is different." Covad Comments at 33. Neither cable companies, nor any other entity can duplicate the BOCs' ubiquitous local networks and last mile access to all telephone subscribers. *See* Covad Comments at 27-28. It is these bottleneck facilities that the BOCs are leveraging in providing DSL services and it is these facilities that the BOCs are required to unbundle under the Act.

[270] Graham Declaration ¶¶ 31, 33 (Attachment C to WorldCom Initial Comments).

[271] *See Local Competition Report* at Table 1.

At some point in the future, of course, competitive carriers may find that they have adequate access to broadband facilities other than those owned by the incumbent LEC. Such a situation will occur, however, only after competition becomes sufficiently robust to give rise to multiple broadband providers that make their facilities available on a wholesale basis to requesting carriers. At that time, the Commission may find that competitors are no longer impaired without access to the incumbents' broadband facilities. As of now, however, such competition simply does not exist.

It is likewise not feasible for competitors to lease a second loop to provide voice-compatible DSL-based services. For example, leasing a second loop is not possible in cases in which the incumbent LEC has only a single loop available to an end-user premise. Even where a second loop could be leased, doing so would place competitive carriers at an untenable disadvantage: competitive LECs would be limited to offering their data services over second lines, while the incumbent LECs would be free to offer consumers DSL over the end user's existing voice line.[272]

As the Commission has previously found, moreover, if competitors were required to purchase or self-provision a second unbundled loop to provide voice-compatible DSL-based services, their provisioning costs would be materially higher than if they purchased the unbundled high-frequency portion of the loop.[273] The combined collocation and unbundled loop costs, in addition to the incremental and fixed network, equipment, and overhead costs, incurred by a competitive LEC seeking to deploy xDSL service can significantly exceed the retail price for the comparable shared-line xDSL that the

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[272] *See* California PUC Comments at 19; New York Comments at 7.

[273] *See Line Sharing Order*, 14 FCC Rcd 20912, ¶¶ 40-41 (1999).

incumbent offers to the same customer that the competitor is vying for. Moreover, incumbent LECs generally allocate virtually all loop costs to their voice services, then deploy a voice-compatible ADSL service on the same loop, allocating little or no incremental loop costs to the new resulting service.[274] In contrast, when the competitive LEC procures a second loop, it must pay the incumbent LEC the full price of that unbundled loop as an unbundled network element. Thus, the incumbent LEC's voice-compatible xDSL service enjoys substantial cost advantages over a competitive LEC's xDSL offerings.[275]

As these facts demonstrate, even where it is feasible for competitive LECs to purchase a second loop in order to obtain the high-frequency portion of that loop, it is not economical for them to do so. Given the lack of availability of broadband elements outside the incumbent's network, and the substantial cost advantages enjoyed by incumbent LECs with respect to second loops, it is clear that competitors would be impaired without access to the high frequency UNE.[276]

(3) Enhancement of Competition

As the preceding discussion makes clear, line sharing clearly is consistent with "the goals of the Act":[277] there is insufficient competition for broadband services; and competitive carriers have no access to broadband elements outside the incumbent's

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[274] *See* n.288 below.

[275] These facts were accepted by the Commission in the *Line Sharing Order*, and remain true today.

[276] As explained above, the impairment analysis for stand-alone loops applies with equal if not greater force to xDSL loops. In general, WorldCom agrees with Covad's impairment analysis, and will not repeat the arguments here. *See* Covad Comments at 38-42.

[277] *See USTA v. FCC*, 290 F.3d at 429.

network. The record is equally clear that line sharing has brought, and would continue to bring, "a significant enhancement of competition" in the provision of broadband services, including facilities-based competition.[278] Far from discouraging competitive LEC investment in facilities as Verizon claims,[279] line sharing has spurred competitive carriers to invest in substantial facilities throughout the nation, including DSLAMs, splitters, packet switching, and transport. WorldCom, for instance, has purchased significant facilities in over 700 central offices across the country to take advantage of the opportunities line sharing provides.[280]

Moreover, line sharing is the only feasible way to erode the market power that incumbent LECs and cable companies currently exercise in the provision of broadband services, and to bring the resulting benefits of competition to consumers. As explained above, incumbent LECs and/or cable companies are currently the only providers of broadband services in the vast majority of geographic areas. As also explained above, neither a monopoly nor a duopoly in broadband services is likely to perform competitively. In the absence of line sharing, the large economies of scale in wireline and cable networks and significant costs of expansion will prevent most competitors from seeking to provide broadband services. By contrast, requiring incumbent LECs to unbundle the high-frequency portion of the loop would allow the entry of competitive carriers, and would allow broadband consumers to enjoy the same kind of benefits that

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[278] *Id.*

[279] Verizon Comments at 86.

[280] WorldCom Comments, Graham Declaration ¶ 27; *see also* Sprint Comments at 37 (noting that competitive LECs engaged in line sharing have invested in substantial facilities, including DSLAMs, packet switching, and transport).

cellular customers reaped in the aftermath of PCS entry: *e.g.*, lower prices, more innovation, and better service.

At the same time, line sharing would not impose significant burdens on the incumbent LECs.[281] The process for delivering the xDSL-capable loop or line-shared loop to a competitor is very much the same as the process for delivering a voice loop – it involves a manual cross connect on the incumbent LEC's main distribution frame from the incumbent's network to the competitor's network. For example, to provide DSL services, WorldCom purchases unbundled loops and line sharing (the high frequency portion of the loop) from the incumbent LECs. WorldCom pays the incumbent LECs to connect the loops to its collocation space arrangements; these collocation arrangements include facilities owned and operated by WorldCom. On the network side of the collocation arrangement, WorldCom provides high-speed services virtually entirely over its own network.[282] The process for delivering loops is the same process that the incumbent LECs have assured the FCC and the states that they use for their own advanced service operations.[283] And, if the process is somehow different, more complicated, or more "burdensome" than that used for incumbent LECs' advanced

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[281] In an effort to evade its unbundling obligations, Verizon exaggerates the differences between facilities used for DSL and those facilities used for voice service. Verizon Comments at 74.

[282] WorldCom Comments, Graham Declaration ¶ 28.

[283] *See, e.g.,* Brief in Support of the Joint Application by Southwestern Bell For Provision of In-Region, InterLATA Services in Arkansas and Missouri, CC Docket No. 01-194, dated August 20, 2001, at pp.107-108 (assuring the FCC that SBC's separate affiliate, ASI, "uses the same ordering and provisioning systems and procedures that CLECs use when ASI requires unbundled loops"); *See also* Verizon's Checklist Declaration, Verizon's Section 271 Compliance Filing, RI PUC Docket No. 3363, dated July 25, 2001.

service operations, that raises a question regarding whether competitive carriers are receiving nondiscriminatory access to these facilities under section 251 of the Act.

Sprint is correct that the unbundling rules for "broadband" are not burdensome and do not prevent the incumbent LECs from competing against cable providers[284] as the BOCs claim.[285] Indeed, Banc of America Securities recently released a report stating that "the premise that regulatory constraints are the major obstacles to aggressive DSL deployment [by the incumbent LECs] is flawed."[286]

TELRIC likewise does not "burden" the incumbent LECs. Contrary to Verizon's assertion, for instance, the incumbent LECs are fully compensated for providing line sharing at TELRIC-based rates.[287] Competitive carriers pay the incumbent LECs for the right to utilize the high frequency portion of the loop, and the FCC's pricing rules ensure that the incumbent LECs are able to recover the forward-looking costs of line sharing. In addition, the costs for line sharing have been litigated in various states across the country, and, despite Verizon's complaint that competitors obtain line sharing at below-cost rates, it has not attempted to impose a charge for the high frequency portion of the loop in any Verizon-East state.[288] Thus, it is clear that the incumbent LECs have been adequately compensated for the costs they incur in providing line sharing.

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[284] Sprint Comments at 37.

[285] *See, e.g.*, SBC Comments at 56 (claiming that DSL is effectively held in check by burdensome regulations.)

[286] Broadband Brief, *What Does Telecom Deregulation Mean for Cable?* Banc of America Securities (March 13, 2002).

[287] Verizon Comments at 85.

[288] *See, e.g., Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements*, Panel Testimony of Bell Atlantic-New York on Costs and Rates for Loop Conditioning and Line sharing for DSL-

b) The Commission Should Allow Competitive LECs to Engage in Line Splitting

SBC asks that the Commission remove the existing line splitting requirement, but supplies little support for its request.[289] The technical configuration of line splitting is no different from that of line sharing. The only difference is that a competitor, rather than the incumbent LEC, is providing the voice service. The availability of line splitting is essential to competition, and the importance of line splitting is growing as the penetration by competitive voice providers increases.[290]

WorldCom needs line splitting so that its DSL business unit can serve customers who have competitive voice service,[291] and its MCI Mass Market division can provide its voice products to customers that receive competitive DSL service. Indeed, MCI's innovative Neighborhood offering of unlimited local and long distance has revealed just how important line splitting is to maximizing consumer choice for competitive voice and data offerings. Without the ability to engage in line splitting, a customer that has competitive DSL service on a given line will not be able to sign up for MCI's Neighborhood offering on that line. Thus, without line splitting a customer is left with the Hobson's choice of either giving up its competitive DSL service or being foreclosed from taking the Neighborhood option. A customer that wants both the Neighborhood and competitive DSL will have to purchase two lines – clearly, a competitive disadvantage for the competitive LECs involved. Similarly, without line splitting, line sharing

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Compatible Loops, New York Public Service Commission, Case 98-C-1357 (filed Feb. 22, 2000). Transcript Page 2808 (Q: "Does BA-NY propose to allocate any loop costs to the rates that it will charge for line sharing?" A: "No.").

[289] SBC Comments at 103.

[290] WorldCom Comments at 104.

[291] WorldCom Comments, Graham Declaration ¶ 33.

customers (*e.g.*, incumbent LEC voice/competitive LEC data) are locked into keeping their monopoly-provided voice service if they want to continue receiving DSL service. Thus, line splitting is necessary to ensure that end users have a choice of providers for all service offerings. Moreover, the Supreme Court has made clear that competitors are entitled to combine network elements in ways that enable them to provide service offerings that differ from the incumbent LECs' offerings,[292] which is something that line splitting enables.

Instead of permitting line splitting arrangements, SBC has delayed the provision of OSS upgrades necessary to accommodate line splitting and continues to take the position that UNE-P/line splitting arrangements are not required by the Commission. When ordering line splitting, the Commission therefore should make clear that the incumbent LEC has an obligation to facilitate UNE-P and competitive data service arrangements.

c) The Incumbent LEC Should Be Required to Permit UNE-P/Incumbent LEC DSL Combinations

As WorldCom requested in its initial comments, the Commission should also permit competitive LEC voice and incumbent LEC DSL combinations.[293] Absent a mandate to do so, the incumbent LECs will not continue providing the DSL service when the customer switches its voice service to a competitive provider. If a customer switches its voice service, the incumbent LEC will disconnect the DSL service that it is providing.

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[292] *Verizon v. FCC*, 122 S.Ct. at 1683-87.

[293] WorldCom Comments at 105.